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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,336	12/31/2003	Morrie Gasser	EMC03-34(03149)	4698
22468 7590 07/31/2007 CHAPIN & HUANG L.L.C. WESTBOROUGH OFFICE PARK 1700 WEST PARK DRIVE WESTBOROUGH, MA 01581			EXAMINER JEAN, FRANTZ B	
			ART UNIT 2154	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/750,336

Applicant(s)

GASSER ET AL.

Examiner

Frantz B. Jean

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2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-8,10,11,15,16,18,20-22,24 and 25 is/are rejected.
- 7) ☒ Claim(s) 3,5,9,12-14,17,19,23,26-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892).
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

This is a first office action in response to application for patent filed 12/31/03. Claims 1-29 are presented for examination.

Claim Objections

Claims 11, 12 and 29 are objected to because of the following informalities:

Claim 11 recites "operational path ending at at least one storage object).

Claim 29 recites, on line 3, "a resource in a netowrk".

Claim 12, part ii) please delete "that are" before not directly.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4, 6-8, 10-11, 15-16, 18, 20-22, and 24-25 are rejected under 35

U.S.C. 102(e) as being anticipated by Li et al. US publication Number 2003/0093509

A1.

As per claims 1 and 29, Li teaches in a management application, a method and computer program product for applying a management action to a resource (see abstract), the method comprising: receiving a selection of a resource representation in a network environment that represents a resource to which a management action is to be applied (see abstract; paragraphs 0069, 0116, 0135

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and 0240); applying a series of resource traversal functions to a repository containing objects representative of network resources in the network environment, the traversal functions identifying a set of action affected resources in the network environment existing along a set of relationship paths extending to at least one storage device that have a current allocation relationship to the selected resource (paragraphs 0608 and 0611; 0501 and 0502); and presenting a representation of the set of action affected resources in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource (paragraphs 0608 and 0611; 0501 and 0502).

As per claim 2, Li The method of claim 1 wherein applying a series of resource traversal functions comprises: applying a going down function to the repository containing objects representative of resources to identify a set of downward resources in the network environment that have a downward allocation relationship to the selected resource, the downward allocation relationship indicating resources that the selected resource depends upon and that are in operational use during access to data by the selected resource on a downward allocation path beginning at the selected resource and extending downward through the network environment and terminating at physical storage devices that store the data accessed by the selected resource (see par 0082-0086 and 0109-0110, wherein downward or upward allocation relationship is part of the hierarchical tree and associated nodes arrangement scheme or function described in Li and in combination with the traversing operational relationships of objects).

As per claim 4, Li teaches a method of claim 2 wherein applying a series of resource traversal functions comprises: applying a going up function to the repository containing objects representative of resources to identify a set of upward resources in the network environment that have an upward allocation relationship to the selected resource, the upward allocation relationship indicating resources that depend upon operational use of resources in the set of downward resources but that exist on an upward allocation path beginning at the physical storage devices that store the data accessed by the selected resource as identified in the set of downward resources and extending upward through the network to top-level resources comprising at least one host device resource other than host device resources identified in the set of downward resources (see par 0082-0086 and 0109, wherein downward or upward allocation relationship is part of the hierarchical tree and associated nodes scheme or function described in Li).

As per claim 6, Li teaches a method or claim 4 wherein applying a series of resource traversal functions comprises:
applying a closure function to the repository containing objects representative of resources to identify a set of closure resources in the network environment that have an indirect relationship to any resources in the set of upward and downward resources resources, the set of closure resources indicating resources that would be affected by a change made to operation of

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resources (Li teaches a set of closure resources indication resources affected by a change; see par 0110-0113).

As per claim 7, Li teaches a method of claim 6 wherein applying a series of resource traversal functions including the going down function, the going up function and the closure function comprises: identifying a collective set of action-affected resources that relate to operation of the selected resource and include the set of downward resources, the set of upward resources and the set of closure resources on data flow paths within the network environment (see par 0111-0112).

As per claim 8, Li teaches a method of claim 7 comprising: receiving a final selection of resource representations in the network environment that represent resources to which a management action is to be applied, the final selection being made from the collective set of action-affected resources that relate to operation of the selected resource (remove device); and applying the management action to the final selection of resource representations (par 0111-0112).

As per claim 10, Li teaches a method of claim 8 wherein the management application is a storage management application and the management action is deallocation of resources that operate to store data under management of the management application (par 01289; deallocating LUNs).

As per claim 11, Li teaches a method of claim 10 wherein: objects representative of resources in the network environment in the repository are hierarchically arranged in an order and include host objects representing host resources and storage objects representing storage resources allocated by the host resources and where the host objects are hierarchically above the storage objects in the hierarchically arranged order; and wherein the selected resource representation corresponds to a host object resources (par 0082-0086); and wherein applying the going down function comprises: traversing operational relationships of host objects, beginning at the selected resource host object in the repository, to identify successive host and storage objects linked in an operational path ending at least one storage object that is a storage device, the going down function thus identifying each host and storage resource allocated for use during access to data in the storage device object by the selected host object resource (par 0110-0111).

As per claim 15, Li teaches a computer system comprising: a memory (fig 1, database);
a processor (12);
a display (GUI, view);
a repository (14);
an interconnection mechanism coupling the memory, the processor, the display and the repository (see fig 1-2); and
wherein the memory is encoded with a management application including a resource manager application that, when executed on the processor, provides a management process that includes a resource manager that applies a management

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action to a resource (SAN Manager 20) by performing, in the computer system, the operations of:

receiving, via a graphical user interface on the display, a selection of a resource representation in a network environment that represents a resource to which a management action is to be applied (see abstract; paragraphs 0069, 0116, 0135 and 0240);

applying a series of resource traversal functions to the repository containing objects representative of network resources in the network environment, the traversal functions identifying a set of action affected resources in the network environment existing along a set of relationship paths extending to at least one storage device that have a current allocation relationship to the selected resource (paragraphs 0608 and 0611; 0501 and 0502); and presenting a representation of the set of action affected resources in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource (paragraphs 0608 and 0611; 0501 and 0502).

As per claim 16, Li teaches a computer system of claim 15 wherein when the resource manager performs the operation of applying a series of resource traversal functions, the resource manager performs the operation of: applying a going down function to the repository containing objects representative of resources to identify a set of downward resources in the network environment that have a downward allocation relationship to the selected resource, the downward allocation relationship indicating resources that the selected resource depends upon and that are in operational use during access to data by the selected resource on a downward allocation path beginning at the selected resource and extending downward through the network environment and terminating at physical storage devices that store the data accessed by the selected resource (see par 0082-0086 and 0109-0110, wherein downward or upward allocation relationship is part of the hierarchical tree and associated nodes arrangement scheme or function described in Li and in combination with the traversing operational relationships of objects).

As per claim 18, Li teaches a computer system of claim 16 wherein when the resource manager performs the operation of applying a series of resource traversal functions, the resource manager performs the operation of: applying a going up function to the repository containing objects representative of resources to identify a set of upward resources in the network environment that have an upward allocation relationship to the selected resource, the upward allocation relationship indicating resources that depend upon operational use of resources in the set of downward resources but that exist on an upward allocation path beginning at the physical storage devices that store the data accessed by the selected resource as identified in the set of downward resources and extending upward through the network to top-level resources comprising at least one host device resource other than host device resources identified in the set of downward resources (see par 0082-0086 and 0109-0110, wherein downward or upward allocation relationship is part of the hierarchical tree and associated nodes arrangement scheme or function described in Li and in combination with the traversing operational relationships of objects).

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As per claim 20, Li teaches a computer system or claim 18 wherein when the resource manager performs the operation of applying a series of resource traversal function, wherein when the resource manager performs the operation of: applying a closure function to the repository containing objects representative of resources to identify a set of closure resources in the network environment that have an indirect relationship to any resources identified by going down and going up, the set of closure resources indicating resources that would be affected by a change made to operation of original resources (Li teaches a set of closure resources indication resources affected by a change; see par 0110-0113).

As per claim 21, Li teaches a computer system of claim 20 wherein when the resource manager performs the operations of applying a series of resource traversal functions including the going down function, the going up function and the closure function, the resource manager performs the operation of: identifying a collective set of action-affected resources that relate to operation of the selected resource and include the set of downward resources, the set of upward resources and the set of closure resources on data flow paths within the network environment (see par 0111-0112).

As per claim 22, Li teaches a computer system of claim 21 wherein the resource manager performs the operations of: receiving a final selection of resource representations in the network environment that represent resources to which a management action is to be applied, the final selection being made from the collective set of action-affected resources that relate to operation of the selected resource; and applying the management action to the final selection of resource representations (see par 0111-0112).

As per claim 24, Li teaches a computer system of claim 22 wherein the management application is a storage management application and the management action is deallocation of resources that operate to store data under management of the management application (par 01289; deallocating LUNs).

As per claim 25, Li teaches a computer system of claim 24 wherein: objects representative of resources in the network environment in the repository are hierarchically arranged in an order and include host objects representing host resources and storage objects representing storage resources in allocated by the host resources and where the host objects are hierarchically above the storage objects in the hierarchically arranged order; and wherein the selected resource representation corresponds to a host object resources (par 0082-0086); and wherein when the resource manager performs the operation of applying the going down function, the resource manager performs the operation of: traversing operational relationships of host objects, beginning at the selected resource host object in the repository, to identify successive host and storage objects linked in an operational path ending at least one storage object that is a storage device, the going down function thus identifying each host and storage resource allocated for use during access to data in the storage device object by the selected host object resource (par 0110-0111).

Claims 3, 5, 9, 12-14, 17, 19, 23, 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz B. Jean whose telephone number is 571-272-3937. The examiner can normally be reached on 8:30-6:00 M-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Frantz Jean


FRANTZ B. JEAN
PRIMARY EXAMINER